

Work Order ID 136711

Wednesday, September 02, 2015 2:45:12 PM

136711

Page 1

Item ID: D2576-1

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Step (Casting Detail)

Start Date: 9/2/2015 Start Qty: 50.00

50

Cust Item ID:

Required Date: 9/2/2015 Req'd Qty: 50.00

50

Customer:

Reference:

Approvals: Process Plan: CL

Date: SEP 03 2015

Tooling: _____ Date: _____

QC: _____

Date: _____

SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2576	Rev G								

100

0.00

100

Purchasing

PURCHASING

Memo

0.00

Purchasing

Issue P/O: 29679 Cast per D2576-1 Pattern vendor: Alpine Non-Ferrous Material Release Note Required

CL SEP 03 2015 50

110

Receive & Inspect for Damage & Mat'l Certs

0.00

110

Packaging

Memo

0.02

Packaging

Ensure D2576 mould is returned with the ordered parts Ensure release note is attached

52 x 8015-09-25

120

QC6- Inspect dimensions to drawing

0.00

120

QC

Memo

0.00

Quality Control

(52)

DAS
38
9-89

SEP 30 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		☐ Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter		FAULT CATEGORY ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center		☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence			
		☐ OTHER : _____							

Work Order ID 136711***136711***

Page 2

Wednesday, September 02, 2015 2:45:13 PM

Item ID: D2576-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Step (Casting Detail)

Start Date: 9/2/2015 Start Qty: 50.00

50

Cust Item ID:

Required Date: 9/2/2015 Req'd Qty: 50.00

50

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

Identify as per dwg & Stock Location: MATGO

0.00

130

Packaging

Memo

0.01

Packaging

DAS
44
9-89

16/03/22

52

140

QC21- Final Inspection - Work Order Release

0.00

140

QC

Memo

0.08

Quality Control

MLJ

MAR 22 2016

MAR 22 2016

MLJ

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : ☐	

Picklist Print

Wednesday, September 02, 2015 2:45:12 PM

Page 1/1

Work Order ID: 136711

136711

Parent Item: D2576-1

D2576-1

Parent Item Name: Step (Casting Detail)

Start Date: 9/2/2015

Required Date: 9/2/2015

Start Qty: 50.00

Required Qty: 50.00

Comments: IPP Rev: A New Issue 05-11-29 JLM
IPP rev B rev F dwg 07.07.06 EC
IPP Rev:C As per Rev G 07-09-05 JLM Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2576-1P

Purchased

No

100

Each

0.0000

1

50

D2576-1P

Step (Casting Detail)

52x 80 15-09-25

DQA: _____ Date: _____

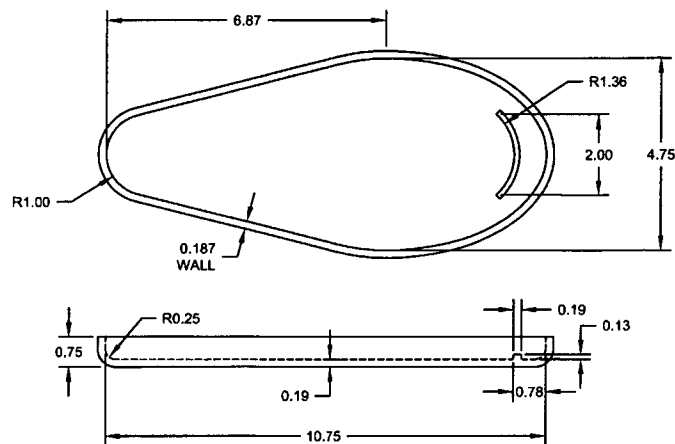


WORK ORDER NON-CONFORMANCE / UPDATE

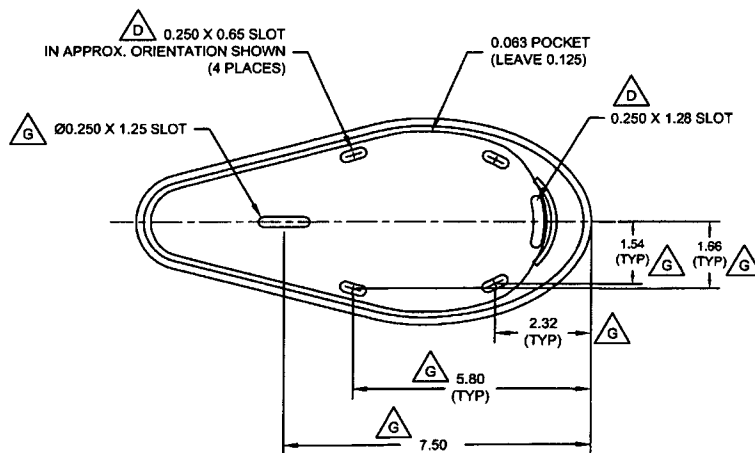
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
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Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					



D2576-1 CASTING



D2576-3 MACHINING DETAIL
(MAKE FROM D2576-1)

NOTES:

- 1) MATERIAL: CAST ALUMINUM ALLOY A-535.2
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.025 TO 0.050 MAX
- 6) IDENTIFICATION: NONE

SEP 03 2015

010' 136711

RELEASED

07.08.29

REV.	DESCRIPTION	BY	DATE
G	- CHANGE SLOTS LOCATION AND SIZE ON D2576-3 - DUE TO SKID BENDING PROGRAM CHANGES - UPDATE CNC PROGRAM	MB	07.08.15
F	7.05 WAS 6.61	PH	07.04.17
E	CHANGE 0.50 HOLE LOCATION AND ADD NOTE	RF	99.09.07
D	CHANGE SLOT SIZE AND LOCATION (TSR A1069)	CP	99.08.18
C	ADD POCKETS AND SLOTS FOR WELDING	DS	98.08.18
B	REMOVE POCKETS, ADD HOLE	DS	96.11.28
A	NEW ISSUE	DS	96.09.18
DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. REV. G D2576 SHEET 1 OF 1 TITLE SCALE STEP 1:3 COPYRIGHT © 1996 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	07.08.15		



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO29679**

Purchase Order Date 9/3/2015 9:52:46 AM
PO Print Date 9/3/2015

Page Number 1 of 2

Order From :

VC-ALP001

Ship To : DART AEROSPACE LTD

ALPINE NON-FERROUS FOUNDRY
8657 - 132ND STREET
SURREY, BC V3W 4P1
CA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAKED

Contact Name

Vendor Phone 604 596 8080

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Ship To Contact

Terms

Net 30

Ship To Phone

Currency

CAD

Ship Via:

FedEx PI collect

FOB

Destination-Collect

Ship Acct:

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	D2576-1P AS PER DWG D2576 REV. G B136711	Step (Casting Detail)	9/28/2015 Yes 9/28/2015		50.00 Each	17.75	\$887.50
Line Total:							\$887.50
2	71401-45	PROCUREMENT QUALITY CLAUSES	9/3/2015 No 9/3/2015		1.00	\$0.00	\$0.00
PROCUREMENT QUALITY CLAUSES A005 RIGHT OF ENTRY A012 CHEMICAL AND PHYSICAL TEST REPORTS A016 PERSONNEL QUALIFICATION A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE) A026 CERTIFICATION OF MATERIAL CONFORMANCE A040 NOTIFICATION OF QUALITY ESCAPE A041 QUALITY MANAGEMENT SYSTEM A042 DART NOTIFICATION BY SUPPLIER A043 RETENTION OF QUALITY DOCUMENTS							

Please advise delivery
Thanks
Chantal

Note:

9/3/2015

**8657-132ND STREET
SURREY, B.C. V3W 4P1
CANADA**

Order No.: PO29679
Date: 04-09-2015
Page: 1
Ship Date: 28-09-2015

Ship To:

DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7
CANADA

DART AEROSPACE

Order Date	Purchase Order#	Due Date	Ship Via	Page
04-09-2015	PO29679	28-09-2015	FEDEX	1
Item No.	Description	Ordered	Backorder quantity	Shipped quantity
DART D2576	D2576 STEP CSTG ✓ GS - GST @ 5% GST PST Exempt: #6122-5207	50	50	50
ALPINE NON-FERROUS FOUNDRY GST: #87550 0001 601509-25 5000 62X				

Comment: Castings&Patterns are property of Alpine until paid in full

Trialco Inc.
900 E. 14th Street
Chicago Heights, Illinois
60411-3002

Certificate of Analysis

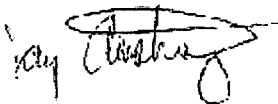
Alloy	535.2	Heat #	I1B8
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Bundle #	Weight
I1B8-015	1,937
I1B8-016	1,934
I1B8-017	1,910
I1B8-018	1,879
I1B8-019	1,831
I1B8-020	1,928
I1B8-021	1,980
I1B8-022	1,997
I1B8-023	1,964
I1B8-024	1,924

Chemical Composition

Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Pb	Sn	Sr
0.07	0.08	0.00	0.17	7.13	0.00	0.00	0.03	0.18	0.00	0.00	
Ca	Na	Be	Bi	B	P	Cd	Co	Sb	V	Zr	
0.0003	0.0001	0.0039		0.00							

We certify that the above analysis is the result obtained in our laboratory for the heat indicated.
This shipment is free of radiation.



Jay Armstrong
President
Trialco Inc.